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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/676,747	10/01/2003	Tetsuro Mizushima	890050.440	7948

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EXAMINER
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ANGEBRANNDT, MARTIN J

ART UNIT	PAPER NUMBER
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1756

DATE MAILED: 09/22/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/676,747

Applicant(s)

MIZUSHIMA, TETSURO

Examiner

Martin J. Angebrannt

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 7/20/06.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- ☐ Notice of Informal Patent Application
- ☐ Other: \_\_\_\_\_

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1. The response of the applicant has been read and given careful consideration. Responses to the arguments are presented after the first rejection to which they are directed. Rejections of the previous office action, not repeated below are withdrawn based upon the arguments and amendments of the applicant.

2. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

3. Claims 2-20 are rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for the case where the antireflection films are each inorganic multilayered films, does not reasonably provide enablement for other films having antireflection properties (ie antihalation films). The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to practice the invention commensurate in scope with these claims.

The prepub at [0069] discusses where the antireflection films are each inorganic multilayered films.

Also the concavo/convex patterns is disclosed only as being provided onto the **outer surface of a substrate** and covered by the second antireflection film. (see figure 2, and prepub at [0049]) (claims 2 and 13)

Claim 13 should read - a first **inorganic** antireflection- - at line 3, to provide appropriate antecedent basis for "the first **inorganic** antireflection" appearing in line 6 and elsewhere in the claims.

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4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1 is rejected under 35 U.S.C. 103(a) as being unpatentable over Takezawa et al. JP 2001-026215, in view of JP 01-040878.

Takezawa et al. JP 2001-026215 (machine translation attached) teaches holographic recording media where layers 7 and 8 are placed on both sides of the recording medium and are manufactured of MgF or the like. [0010]. The formation of the antireflection layers 5-8 as single layers or multiple layers is disclosed. [0017].

It would have been obvious to one skilled in the art to modify the invention of Takezawa et al. JP 2001-026215 by having the AR coatings be different as a two or three layer composite on the light incident side shown in figure 2, with a single layer coating on the other side with a reasonable expectation of forming a useful holographic recording medium with reduced reflections. The benefit described in the specification is not realized until the embossed address information is present. Therefore the advantage is not commensurate in scope with the coverage sought.

The examiner notes that there is no comparative examples showing the undesired effects when the AR coatings have the same optical characteristics.

6. Claims 1-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Furuya et al. JP 2002-063733, in view of Yoshinaga et al. JP 01-231082, JP 01-040878 and Clube et al. '104.

Furuya et al. JP 2002-063733 (machine translation enclosed) teaches holographic recording media, where the backside of the substrate (1) is/are embossed with markers (3) which provide indexing/address information to allow the location of a particular hologram or holographic recording area in the recording layer (2). In figure 2, the laser (202) is used to detect the servo marks and a 532 nm laser (207) is used for the recording and playback [0024]. A low coherency laser may be used as the servo laser [0026]. Prism 204 reflects the servo laser and allows the writing/readout laser (207) to pass. [0024].

Yoshinaga et al. JP 01-231082 teaches the application of anti-reflection layers (4) on both sides of the optical recording medium. (see figure 2, see index of figures on page 6).

JP 01-040878 teaches the provision of antireflection coatings on holograms. Single layer embodiments will be approximately  $\lambda/4$  in thickness (page 3/upper right column) and may be made of various oxides and nitrides. For a spectrally broader antireflection property, multilayered films can be used, particularly three layer composites with thicknesses of  $\lambda/4$ -  $\lambda/2$  -  $\lambda/4$  respectively.

Clube et al. '104 describe the use of alignment marks where the marks for registration are readout using a wavelength which the photosensitive medium is not sensitive to. (5/13-14)

It would have been obvious to one skilled in the art to modify the invention of Furuya et al. JP 2002-063733 by providing AR coatings on both sides of the medium to reduce the reflections as taught by Yoshinaga et al. JP 01-231082, with the reflective layers being inorganic materials such as the metal oxides and nitrides disclosed by JP 01-040878 and further to have the AR coatings be different as a three layer composite on the light incident side shown in figure 4, with a single layer coating on the embossed side so that the recording and servo laser

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wavelengths pass easily through the first AR coating and the servo beam is reflected preferentially by the AR coating on the embossed side to facilitate indexing (which requires reflection at that interface) without causing spurious reflection of the recording laser during the hologram recording process which is congruent with the teachings of the use of different lasers for the servo and recording lasers and the teaching of the use of a laser emitting at a wavelength which the photosensitive layer is not sensitive to by Clube et al. '104.

7.

8. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).


A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Martin J. Angebrannndt whose telephone number is 571-272-1378. The examiner can normally be reached on Monday-Thursday and alternate Fridays.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark Huff can be reached on 571-272-1385. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Martin J Angebranndt  
Primary Examiner  
Art Unit 1756

09/20/2006